PVRC NEWSLETTER JUNE 1997

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PVRC Charter Members: W3GRF (SK), W3IKN, W4AAV (SK), W4KFC (SK), W4KFT,
N0FFZ (SK), W4LUE, W7YS, VP2VI (W0DX), N0FFZ (SK).

PacketCluster Contest/DX System (MHz):
K3NA Frederick MD 145.630
W3LPL Glenwood MD   145.590 441.250
KE3Q Bowie MD   145.570 445.375
N3RR Rockville MD 145.510 441.325
N4OHE Mt.Weather VA 145.710 440.925
N4SR Woodbridge VA 145.630 *
WR3L Baltimore MD 145.610 440.950
K4FJ Mt. Vernon VA 145.770 *
K3MQH S Mountain PA 145.630
The system is sponsored by the Potomac Valley DX Spotting Network except
for nodes marked with "*" are funded & operated by the Rappahannock DX
Packetcluster Group.

PVRC on Internet. PVRC web site: http://www.pvrc.org courtesy of K3SA
        PVRC/NC web site: http://www.pagesz.net/~pvrc courtesy of N4AF
        PVRC reflector: to join.   to
post.

Dues are by donation. The mandatory $10 dues have been discontinued. So
please send your donation - hopefully at least $10 - to Jim Horton, N3KTV,
8527 Calypso Lane, Gaithersburg, MD 20879-1522. Make checks payable to
PVRC. Thank you.

Newsletter Editor: Dick Wilder, K3DI, 913 Shore Acres Rd, Arnold, MD
21012-1724. The communication ports are: (410) 757-6706, FAX/modem
757-6720, , and the DXcluster. The deadline for articles
is Monday, two weeks before the central meeting.

The Central Meeting is always the second Monday except during the summer.
During June, July, and August an alternative to the central meeting are
the various summer activities. The NW Region meets through the summer.

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PVRC Summer Meeting Calendar:
Sat   Jun 7           First PA meeting at WF3T. Caravan from K3TZV at6pm.
Sa/Su Jun 7/8/9       PVRC Reunion on-the-air.  See page 2.
Sun   Jun 15          Visit KE3Q's tailgate at Frederick Hamfest.
Tue   Jun 17          NW meeting, Legends Restr, Frederick MD at 8:00
PM
Sat   Jun 21          Joint PVRC/FRC meeting at W3LPL. Directions page 2.
Tue   Jul 15          NW meeting, Legends Restr, Frederick MD at 8:00
PM
Sat   Jul 19          Open house at W4MYA. More info next month.
Sat   Aug 16          Fowlfest at W3YOZ.  Joint PVRC & NCDXC meeting.
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PVRC SILENT KEYS

Larry Herath, K3ON, of Arnold, MD passed away over labor day weekend (Sep 96) as the result of a drowning accident. He was 48 and leaves a wife and two daughters.

Randall Spooner, W1KGH, of South Hampton, NH passed away on July 9, 1996 at the age of 78.

Chuck Tidd, K4EBY, Woodbridge, VA passed away on 6 February 1996 as the result of complications from Chemotherapy.

PVRC WINS THE 1996 SWEEPSTAKES GAVEL by Rich Boyd, KE3Q

It's official...ARRL has sent us the unlimited club gavel for SS '96! We have to dig out the old QSTs to confirm the exact year we last won this, but W3LPL thinks it was about 25 years ago! We're back. I'm eager to see QST to see how many points we had verses the competition and how many logs were submitted.

Congratulations to the NC region, Tidewater, Central Virginia, Rappahannock, PA, and the traditional PVRC heartland for pulling together to make it happen!

Now that we've thrown down the gauntlet bigtime we can expect perennial winner Northern California Contest Club to mumble and grumble and lick its wounds and come gunning for us this November. So I think we'll need to build on what we did in '96, can't sneak up on 'em any more, and out-organize them this fall so we can continue our winning streak! I hope we can put together a string of these wins and reestablish the PVRC dynasty! Hopefully this time next year we will be talking about a threepeat! hi. Good job everybody! Dayton should be even more fun this year.

PVRC REUNION ON-THE-AIR - JUNE 7, 8, and 9, 1997

The complete rules are in the May issue of the Newsletter but are briefly repeated here for those who read this electronically; the paper version will arrive after 9 June.

You are eligible if you were ever a PVRC member. Most will be on CW on 3547, 7047, 14047, 21047, and 28047 kHz and on SSB on 14247 and 28447 kHz. The three contest periods are: 7 Jun 1400-1800z, 8 Jun 0000-0500z, and 8 June 2200z - 9 Jun 0300Z. The exchange is serial number, your call, state, call when first joined PVRC, and year joined PVRC such as: "NR73 W6XYZ CA W4XYZ 60." Two points for each QSO on any of the seven bands multiplied by sum of all states, DC, provinces, and DXCC countries. The multiplier is counted once; not for each band. Send your score (no need to send a log) to the editor.

FIRST PA REGIONAL MEETING by Steve Steltzer, WF3T

There will be a PA-PVRC meeting at WF3T, Saturday, June 7 at 7pm. Any and all are welcome to come visit and have a good time. Please let me know if you are planning to come, so I have an idea of how much stuff to get. I'm near Newport, PA about 30 miles NW of Harrisburg. Message via the DXcluster or if you need directions or have questions. Alternatively, a bunch will meet at 6pm at Steve Cutshall, K3TZV, 314 W. Main St in Shiremanstown and caravan to my place. (Those reading this electronically please publicize; the paper version of this issue will arrive after the meeting. -editor)

Saturday, June 21st. Joint FRC/PVRC meeting at W3LPL, Frank and Phyllis Donovon, 3055 Hobbs Rd, Glenwood, MD. 301-854-6619

Arrive anytime after noon; rain or shine. A modestly priced BBQ lunch (beef, port, beans, and salad) will be prepared on site from Noon to 3 PM by our local (excellent) restaurant for those who elect to join in. N3IS will arrive with his ice cream truck at about 3 PM. Soft drinks, beer, and snacks will be provided.

Directions from I-95:
Take Rt 32 West (Exit 38B) west towards Columbia and Clarksville. Follow Rt 32 for 13 miles and turn left at the 1st traffic signal, Burntwoods Rd. Follow Burntwoods Rd for 1.7 miles and turn right on Hobbs Rd. Park on the grass in front of the towers.

Directions from Montgomery Co:
Take Rt 97 (Georgia Av) north through Olney and Sunshine and cross the Patuxent River into Howard county. Five miles into Howard Co, turn right onto Burntwoods Rd. Follow Burntwoods for one mile and turn left on Hobbs Road.

Directions from I-70:
Take I-70 West to Route 32 (Exit 80). At the bottom of the exit ramp, turn left onto Rt 32 South towards Clarksville. After 1/2 mile, turn right at the first traffic signal onto Rt 144. Follow Rt 144 for three miles and turn left onto McKendree Rd (church on left). Follow McKendree for 1.5 miles and take the second left onto Hobbs Rd. W3LPL is one mile ahead on top of the hill.

MINUTES OF THE PVRC CENTRAL MEETING 5/12/97 TEMPLE HILLS, MD by Brian McGinness, N3OC, Secretary

The meeting was called to order at 7:30 by Rich, KE3Q. Members and guests were introduced. Members attending were: ND3A, K3ZO, W6UM, W3AZ, N3OC, WR3L, WB3ECU, K3ZB, WK3I,W3ZZ, WA3TAI, WR3Z, W3LPL, W3YOZ, KO7V, K3MM, and K4VV.

Rich announced that he had received the First Place gavel in the club competition from the 1996 ARRL Sweepstakes. QST had not arrived yet, so the arrival of the gavel was our first indication that PVRC had won! We also received the First Place gavel in the medium club category for the ARRL 160m contest. We will research the top single op who has not previously received a gavel and award them to those members.

Rich showed a map of the current PVRC circle. Rich also announced an open house at WF3T in Pennsylvania on 6/7/97 -see the newsletter or packet for details.

A discussion of WPX strategy was held by K3ZO and K3MM.

A video demonstrating the Pro-Active noise canceling headsets by Noise Cancellation Technologies was shown.

The WRTC-96 video produced by NCCC was shown.

Portions of the K3LR video from a Dayton 96 forum was shown showing installation of his 40 meter beams.

Marty, W3YOZ announced the annual PVRC Fowlfest will be at his place on 8/16/97.

The meeting was adjourned around 9:30.

NW REGIONAL MEETING MINUTES, May 20, 1997 by Tyler Stewart, K3MM

NW meetings are held on the third Tuesday of every month at Legends Restaurant in the Hampton Inn, located at the intersection of Route 85 and Interstate 270 in south Frederick, Maryland.

In attendance were members: K3MM, KE3Q, K3TZV, K8OQL, W8ZA, WD3A, K3IXD, W9LT, N3HBX, AA3LE, W6HZW, and K3SKE, along with guests Amy Boyd, N3MIL and Tom Viselli, K2UOP.

Rich, KE3Q, attending his first NW meeting, discussed the PVRC territory and recruitment efforts. KE3Q, Rich, told us of his fun at Dayton and displayed the "official" PVRC territorial road map, discussing various criteria including the selection of boundaries.

K3TZV, Steve, is recovering from surgery and invites all to the first Pennsylvania Regional meeting, which will be held on June 7th @ 7PM at the new QTH of WF3T, Steve. If you wish to attend contact Steve or KE3Q for directions and possible carpooling coordination.

K8OQL, Jerry, attended his first NW meeting. He has op'ed MS with W9LT and is a close neighbor of guest K2UOP.

W8ZA, Bob, continues to build up his antenna farm.

WD3A, Tom, is trying to figure out a rig problem.

W6HZW, Barry, attended his second meeting. He got in at the last minute for the 6 meter sprint, enjoys CW, and will partner with ND3F/Rover for the June VHF contest. He is also battling ground hogs at his QTH!

K3IXD, Ed, will rove with W3EKT in the June VHF contest and they are looking for good sites for their upcoming effort.

K2UOP, Tom, attended his first PVRC meeting as a guest. He's on VHF through 10 Ghz! On HF he has a tribander and wires and he is glad he finally made it to a PVRC meeting.

W9LT, Lamar, had a great time at Dayton meeting old friends.

N3HBX, John, is still battling line noise from a 69kv feeder.

N3MIL, Amy, enjoyed her first trip to Dayton. She found it fun but exhausting. She especially enjoyed the Dxpedition video presentations. She also took part in the KCDXA Pile-up Competition, racking up a record score!

AA3LE, Miller, is working on setting up a KPC3 on packet.

K3SKE, Dan, shared Dayton with the Beezer...and reports that Norm, K3LYW picked up about 20 rotors at Dayton!

K3MM, Tyler, has new tower up to 110' and will try for the full 190 in a few weeks. He set new claimed score records in the recent VOLTA RTTY contest and 2 meter Sprint.

We voted in new members Barry Thaysen, W6HZW, and Michael Cox, K3GEG. Congratulations!

For Show and Tell, Tom, K2UOP, showed us his $20 voice keyer built from a Radio Shack kit. Tyler, K3MM, had his new Noisebuster Extreme headset and finds the active noise reduction works very well, reducing long term fatigue. However the headset gets very uncomfortable after a few hours. Bending the headband to reduce the "visegrip effect" has been helpful. Meeting adjourned!

OVER-THE-HILL LUNCHEON MEETINGS

The April OTH meeting was in College Park, MD. Attendees were: Hugh, W3ABC; Bernie, W3RE; Larry, W3GN; Tony, K3WX; Bill, W3AZ; Frank, W3LPL; Ben, AA4XU; Bill, W3EDZ; Bill, W3EIV; Ken, K6IR; Dale, W4DM; Stu, AA4I; Fred, K3ZO; and Andy, W3XE.
de Andy, W3XE

The Over-The-Hill bunch met at the Ramada Inn Oxon on May 21st. Those attending were W3ABC, K3ZO, W3XE, K3WX, W3EDZ, W3AZ, W3GN, W4DM, AA4XU,

and W6AXX. The time was spend enjoying good food and spinning stories of old or discussing present ham related problems.   de Bill, W3AZ

PVRC-NC MEETING MINUTES 5/1/97 by Pete Soper, KS4XG

Site. The meeting was held at OMalley's restaurant in Raleigh from 6-8pm.

Attendees. K2AV/Guy, K3KO/Brian, K4HA/Bob, KF4MOK/Dave, KS4XG/Pete/notetaker, N3QYE/Jim, N4AF/Howie, N4CW/Bert, and NT4D(x-WB8BMV)/Jay.

Membership. This was the second meeting for Dave, KF4MOK. Membership is unchanged at thirteen.

Program. Club business and announcements

Howie, N4AF announced his appointment of Bert, N4CW as chairman-elect. Bert will take over the chapter on September 1st. Bert was congratulated and everyone was very pleased by Howie's choice.

A motion was passed that since the chapter meeting minutes are published in three different forms (printed, Web site and via email) there should be no reading of minutes at meetings but instead the opportunity to submit corrections and additions.

The chapter's club call, NY4A, will be in use by N4AF for WPX this month. Howie stressed that use of the club call must be cleared through the call's trustee (him) to avoid duplicate usage.

Howie also announced that although he hasn't found a place yet, he expects to be moving out of the area. He also shared plans for more emphasis on wire antennas in the future and reasserted his pledge to have no trees anywhere near his towers!

A Web site for the chapter will be needed. Jim, K4MA had offered to help and Pete, KS4XG was investigating alternatives. But Jim, N3QYE offered the best deal: a free home for the chapter's Web pages (albeit on a computer that occasionally crashes). Howie and Jim will get the pages set up on the new site as a redundant backup site as Howie firms up his plans for moving.

Howie and Guy, K2AV reminded us of the PVRC reunion contest during the first weekend in June. This is a contest among all PVRC members worldwide. Details are in the May PVRC newsletter. The dates and times for the contest are:
     1400-1800 UTC Saturday June 7
     0000-0500 UTC Sunday June 8
     2200-2359 UTC Sunday June 8
     0000-0300 UTC Monday June 9

Guy pointed out that his club membership date is 1965, not the 50s date listed in the newsletter (he's not that old!). He then stressed that reunion club exchanges are fast as there are "no Lids in this club". It was also pointed out that beneath the surface of this friendly contest

there were some cases of long standing, intense rivalry.

Club scores: Brian, K3KO scored 318k points in the WPX phone contest in the SO/HP/TS assisted category, while Will AA4NC, K4MA and KS4XG scored 2,143,876 points with callsign N4YA in a M/S effort.

Vanity news. Jay, NT4D announced his new callsign and there was an immediate request by multiple members to "borrow" it during the upcoming WPX test. Bert pointed out that W4CW should become available in May of this year.

Bob, K4HA described the effort he made to get his license plates updated with his new callsign, using black marker pens on the forms, etc, only to have the instructions ignored and getting new plates with his old callsign. A few phone calls to the DMV and some FAXing have this back on track but he warned that the DMV indicated this has been happening a lot.

Warm weather is here: Consider volunteering to host the next meeting now.

Member news. Bert just downloaded a copy of LogEQF for $39 and is very pleased with it. He also pointed out that the Force 12 catalog is more than a catalog, but contains useful information as well. This is available from: http://www.qth.com/force12/

No members attending are currently using a Force 12 antenna. Bert is debating getting a Force 12 antenna or a TH7 (or 11). He was then quizzed about whether this means he's getting around to putting up his tower. He said no, he's still doing work on his house.

Guy said he recently got a copy of EZNEC and has been having a ball with that. He expects to have a collection of good wire antennas up 70 feet soon. Too-heavy sinkers were keeping him from getting over the trees with his slingshot but a one ounce sinker is now working very well. He expects to be ready to take part in CW WPX and this will be his first contest effort from home in many years.

Jim, N3QYE continues to wrap up his masters degree at NC State and has had no time for hobby activities. Dave, KF4MOK is a 'State graduate working at one of the facilities where Jim is doing his research.

Pete asked more questions about getting his Rohn foldover erected. He was urged to plan on building the tower up to the first guy point on the ground, then erecting it with the short base section with lots of help, guying it and getting it plumb, and then pouring the concrete. There was another warning about stainless steel hardware (although after many phone calls after the meeting, I'm convinced that galvanized grade 5 NF joint bolts for 25G tower sections DO NOT EXIST!).

Next Meeting. The next PVRC/NC meeting will Thursday, June 5th, 6pm at Houlihans restaurant in Cary. Houlihans is on Walnut street (Cary Macedonia road technically), at Crossroads Plaza on the east side of US1, within sight of Home Depot and Lowes.

PVRC BWI REGION MEETINGS by Howard Leake, W6AXX

This informal meeting is each Wednesday morning at 07:30 hrs at Basil's Deli Port on Elkridge Landing Road. The attendance roster for 30 April thru 28 May follows:

    30 Apr 1997   W3GHR, K3IXD, WB0QII, W2EOS, N3WKE, & W6AXX
    07 May 1997   Mis-placed my attendance notes (called Old Age)
    14 May 1997   K3IXD, K3GEG, N3WKE & W6AXX
    21 May 1997   W3GHR, W2EOS, K2YWE, N3WKE, ND3F, and W6AXX
    28 May 1997   K2YWE, N3WKE, N3XPK & W6AXX

During the month of May, two new faces were in attendance. Dan Seitlin, K2YWE and one of the W3LPL CW Ops, saw the notice in the May Newsletter. Rusty's wife Robin joined us on the 28th to celebrate her first year as N3XPK. Congratulations Robin!

I made some extra copies of VHF TEST 2.30 March 1997 UPDATE. Contest software by Allen Huber, WG3E if anyone is interested in a copy please contact me.

COMMENTS FROM THE EDITOR

There are several PVRC'ers who spend plenty of time exploring the Internet and the World Wide Web. Three that come to mind are:

(1) Steve, K3SA, maintains the PVRC WWW page as listed on page 1. My web browser is configured to immediately pull up the PVRC web page and then click on the site I wish to go to. This technique means that effectively Steve maintains the URLs of many sites that I would otherwise need to put in my bookmarks.

(2) Leo, KA3TGY, regularly publishes interesting amateur radio sites via the PVRC reflector.

(3) Bernie, W3UR, has started a new DX bulletin that is sent out 5 days a week via E-mail called The Daily DX. For all the details check out The Daily DX homepage at URL http://www.wdn.com/thedailydx or e-mail Bernie at

Dick Ballou, K3MQH, reminds us of the June VHF contest which starts at 2 PM Saturday June 14th and ends 11 PM on Sunday, June 15'th. PVRC will be represented by the PVRC Crew at K3MQH (South Mountain VHF Contest Team) and possibly the Grid Pirates. The K3MQH team will be looking for a big turnout from PVRC Members AT LEAST on 2M FM Simplex (NOT 146.52, but adjacent channels such as 146.49 and 146.55 MHz. Remember, K3MQH has a big signal through out the MD and DC area and, even if we're not in the contest, we can easily work them while running errands around town and give points to the PVRC effort.

Ray Conrad, KT4W, has some goodies for sale. Two pieces 100 ft of 7/8 hardline with connectors. Telrex TB6-EM 6el tribander. CBA or home 301-309-9724 or

Bob Peterson, W3YY, is leaving the Voice of America to join World Space

Management Corporation as their Deputy Director for Broadcast Engineering.
He is remaining in the Washington area but will be involved in some
interesting DX travels. Separate trips to both Singapore and China are
already on Bob's calendar for the month of June!

PVRC members worldwide can receive a copy of the monthly PVRC Newsletter
by direct email. The PVRC Newsletter is also available on www.pvrc.org.
For direct email, send your email address to me at

Glen Kurzenknabe, K3SWZ, mailed me a copy of the following that he found
on www.qth.com/ka9fox.

"I have discovered that the Radio Shack model 43-591C telephone has
excellent immunity to RFI. I wrapped a long phone cord around the 1500W
amplifier and tested several phones on all bands. The 43-591C was totally
clean on every band, except for some barely audible interference on 10
meters. 10 meters was clean when the phone was plugged into the wall,
without the cord being wrapped around the amplifier. My other phones
didn't fare so well during this test."

"The 43-591 is on sale for $16.99, at least in this area. At that price,
you can stockpile a few, and loan them to neighbors when they come to
complain on contest weekends. This approach seems to work pretty well.
Sometimes it drives home the point that the problem is on their end, and
they stop complaining. Sometimes they don't return the phone, and are too
guilt ridden to come back and complain about something else. Either way,
they stop complaining. It's cheaper than a lawsuit, even if you win.
Dave Hachadorian, K6LL, "

PVRC CQ WPX CW SCORES (Rev #6) by Dave Blanchard, N3II

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CALL   PWR BAND QSO    MULTS     TOTAL
        **   SINGLE OP - UNASSISTED
K3ZO    C       2141     726    5,670,060
KT3Y    C       2073     669    4,550,000
NY4A    C       2015     686    3,985,660
N3OC    C        888     453    1,205,433
N3NT    C TS     814     448    1,131,648
N4CW    C        505     342      510,264
N8II    C 20     405     265      281,000
K4VV    C        200     157       93,886
W4VC    C TS     105      95       26,037
WC4DX   C 10     177     193       24,704
K1HTV   B       1083     523    1,743,159
W3CP    B 40     214     191      160,822
N3TG    B        205     166      104,912
F/K3DI  B         53      49        3,920
KA4RRU  A        485     329      425,068
        **   SINGLE OP - ASSISTED
WF3T    C       2077     701    4,302,037
K3MM    C       1368     554    2,568,344
K3KO    C TS    1209     584    2,041,080
K4MA    C       1060     544    1,687,488
W3HVQ   C        787     432    1,022,544
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NT4D    C       305     224     219,072
ND3F    B       567     391     540,000
K3XZ    B       183     131      42,300
        **  MULTI SINGLE
NJ4F    C      2096     738   4,900,000
NC3DX   C       657     376     517,000


        A =  QRP
        B =  LOW POWER
        C =  HIGH POWER
        TS = TRIBANDER + SINGLE ELEM 160-40
        BR = BAND RESTRICTED
        R =  ROOKIE

TOTAL SSB        10,285,91030 Logs
TOTAL CW         37,756,438         25
GRAND TOT        48,042,34855

LAST YEAR  1996           Logs   Total
1. N. CALIFORNIA CC        27    82,085,236
2. YANKEE CLIPPER CC       60    78,148,760
3. SLOVENIA CC             63    58,336,589
4. POTOMAC VALLEY RC       32    56,475,744

OPERATORS:
  NC3DX    WV3B N3UMA
  NJ4F     NJ4F K7SV K4EC K4GMN
  NY4A     N4AF
  WC4DX    W4YV
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THE PVRC NEWSLETTER CAN USE YOUR HELP by Brian McGinnes, N3OC

Our club newsletter has become the same old thing month after month, through NO fault of the editor. We have so much expertise in this club that this shouldn't be. Our newsletter could be on the cutting edge of contesting, if everyone would pitch in and write up things for Dick to include in the newsletter! If you are so inclined, please give something back to the club, and get some material to K3DI to include in future issues. In this vane, the following is my submittal.

USING CT WITH NETWORK CARDS AND WITH WINDOWS 95 by Brian McGinness, N3OC

As most PVRCers that use personal computers know, most of today's software demands a higher performance operating system than did the previous generation of Windows and DOS applications. As a result, most, if not all, new computers come with Windows 95 pre-installed on them. So like it or not, eventually most of us will have to come to grips with this.

During the last couple months, I have converted all my computers to Windows 95, and as a result have had to learn how to deal with legacy applications, like CT, that do not work well with Windows 95 without some special settings. In addition, during this time, I have received a beta version of a CT TSR from K1TTT that will allow LAN cards (such as an ethernet card) to network with CT. So my purpose of this article is to

show how to make CT work correctly with Windows 95, and how to interface CT with ordinary network cards to replace the old daisy-chain serial network.

First, a basic understanding of how Windows 95 starts up is in order. Windows 95 is a 32-bit operating system, but to maintain maximum compatibility with old 16-bit applications, Windows 95 uses a 16-bit "real mode" component to get it started. This real-mode component is the equivalent of DOS 7.0, and is used to start Windows 95, then passes control to the "protected-mode" 32-bit operating system. As a result, your Windows 95 computer can still be booted up in the equivalent of DOS at anytime.

To start the PC in MS-DOS mode, you boot normally but when the screen says "Starting Windows 95..." you can press F8 to get to the recovery menu. Simply select option #6, command-prompt only, and the machine will boot in MS-DOS mode and not load the rest of Windows 95. This is the simplest and most direct way to use CT with Windows 95.

However, there are some real benefits to having CT in a true window. While I don't think we'll see CT running in a window at W3LPL anytime soon, for smaller or more casual efforts it can be a benefit. For example, I run the windows version of Geoclock along with CT, and sometimes even run my logbook program concurrently so I can check for new countries during the contest.

To run CT in a Windows 95 window, you need to make a couple changes to the Windows settings. CT uses COMTSR1, etc. to interface with the hardware (serial port), but Windows 95 is controlling the serial ports via the operating system. Therefore, CT has to be told not to handle these devices that will be serviced by CT's COMTSRs.

To prevent Windows 95 from controlling these devices, you have to make some changes to the hardware settings in the control panel. Click on "start", then "settings", then "control panel". Then double-click on "system", and then click on the "device manager" tab. You should see a list of the hardware devices that Windows 95 believes you have in your PC. Next, double click on "Ports (COM and LPT)" or single-click the little + symbol next to it. This should display a listing of all the COM and LPT ports in your computer.

To prevent CT from using any one of these ports, double-click the port, such as "Communications Port (COM1)". You will then see a properties box for that port. Staying on the "general" tab, you will see a section at the bottom called "Device Usage", and a place to check if this device is to be used by windows. To prevent Windows 95 from using it, and allowing CT's TSRs to use it, remove the check mark by clicking once. At this point, after the next re-boot, the device will not be available to Windows applications but will still be available to DOS-based applications, like CT. Continue un-checking all the ports you want CT to be able to use, and don't forget to turn off any printer ports that might have CW-keyer cables connected to them, as well as a the network card if you are using one for CT (more on network cards later).

Then you can add CT to the taskbar just like any other program. Don't forget to change the properties to allow it to run in a window, and to close the window on exit. If you start CT with a batch file as most of us do, simply put the batch file on the taskbar (start, settings, taskbar, add).

But there is one problem with this. It is inconvenient to make all these changes each time you want to use CT, and change them all back when done so Windows 95 operates normally. Windows 95 has a solution to this, called hardware profiles. You can make a second hardware profile that has these CT devices disabled, retaining your original profile untouched for normal use of the computer.

To create a second hardware profile, open the system properties in the control panel (start, settings, control panel, system). Then click the "hardware profiles" tab. You will see one profile called "original configuration". Click the radio button called "copy", and it will copy this original configuration to a new profile, and allow you to give this new hardware profile a name. I called mine "CT".

Once this is done, if you return to the device manager tab and click on a port again, you will now see TWO check boxes in device usage, one for your original profile, and one for your new CT profile. Un-check those devices CT uses in the CT profile only, and leave them checked in the original profile.

Then what happens is every time you boot the machine, it asks if you want it started in your original configuration, or your CT configuration. This way there is one simple selection to make when you boot that will automatically make all those other changes in the control panel, saving a lot of time and effort. To return the machine to normal, reboot and select the original configuration. It sounds complicated, but really is quite simple once you get it all set up.

Now for the network cards. Why a network card, you might say. My serial cables work fine, and they are more than fast enough! The problem is not the speed, it is the topology of the serial CT network. One of the shortcomings of the serial network is that if one computer fails, locks up, or the cable falls out, all the computers down the line will be affected, and no longer log to the network. With the topology available with LAN cards, if one PC dies the others are not effected in any way! So the LAN cards allow a "star" topology to be used rather than an in-line configuration.

Recognizing this, Dave, K1TTT (ex KY1H) has written a CT TSR for ethernet cards, called NETTSR.EXE. This TSR is designed to talk to CT as if it were COMTSR4, so it is a direct replacement for COMTSR4 and COMTSR4 cannot be used concurrently with NETTSR. (If you absolutely have to, you can still use your COM4 port, but you will have to use COMTSR5 to service it, using COM4 settings, such as COMTSR5 -a2E8 -i11).

The TSR uses the network cards in the "packet" mode, and requires the packet drivers that are supplied by the card's manufacturer on the disks that come with the card. These drivers allow NETTSR to use the card in

the packet tcp/ip mode, which is how the CT network operates.

So the first step is to physically install the LAN card, then configure
and test it using the software supplied with the card. Then the packet
drivers are copied to the CT subdirectory on your hard drive, and a new
batch file to start CT using the NETTSR is created. My batch file looks
like this:

```
ktc2000p 0x6f          (packet driver that came with network card)
nettsr 123.123.123.80  nettsr using phoney ip address for CT)
comtsr1                (original comtsr1 for the com1 port)
comtsr2                (original comtsr2)
comtsr3 -I11           (original comtsr3 using irq11)
comtsr5 -a3e8 -I12     (original comtsr5 aliased to COM4 now)
ct -vga -d %1          (starts CT in VGA mode with master.dat)
comtsr5 -u             (unloads comtsr5)
comtsr3 -u             (unloads comtsr3)
comtsr2 -u             (unloads comtsr2)
comtsr1 -u             (unloads comtsr1)
ktc2000p u             (unloads the packet driver)
```

Note there is currently no way to "unload" NETTSR in this version, so I
load it first so it won't prevent the other TSRs from unloading (LIFO –
last in, first out). This will start CT normally, using the NETTSR. As
CT comes up, configure COM4 to be the network on the serial device setup
screen, and NETTSR will communicate with CT just as if it were COM4. Just
leave it set to "none", and the NETTSR will take it from there. Of
course, configure your other COMTSRs as you would normally for packet, rig
and rotor control.

For the physical cabling of the CT LAN network, there are two options.
Ethernet cards come in two types. "Thick" ethernet is coax based (RG–58),
with a BNC tee on each LAN card. Since thick ethernet is still
daisy-chained, it suffers some of the same issues as the CT serial
network, with the advantage that if a machine locks up or fails, the BNC
tee still allows the other machines to see the network. But if the cable
falls out or is cut, the other computers still go dead.

The second type of ethernet cabling is call "thin" ethernet, and consists
of two twisted pairs connected with RJ–45 modular connectors. Ordinary
telco cable, such as "JK" or something shielded like Belden 8723 will work
just fine. This configuration uses a star topology, and requires an
inexpensive network hub ($100) if more than two computers are being cabled
together. All the ethernet cards plug into the hub box, which allows them
to communicate with each other, even if one cable falls out. A thin
ethernet setup of only two computers can use the ethernet equivalent of a
null-modem cable, called a "crossover cable". This crossover cable simply
plugs into the RJ–45 connector on both computer's LAN cards, and does not
require a lan hub box.

A quick note about using LAN cards with the DVP board. The DVP board uses
port 308h, which conflicts with the port address of most LAN cards. So
make sure to select an alternate port address, such as 2c0, when
installing your network card in any machine that has a DVP in it.

So, if you've hung with me this far, you should have a working Windows 95 machine that runs CT fine in a window, using a LAN card for the network interface! I have done some testing so far, and it seems to work perfectly. However, I have not tested the NETTSR under anything resembling a heavy load yet. I am hopeful that we will be able to hook up an extra machine at W3LPL during the RTTY contest in September and determine how the system holds up under load. The test would involve adding a LAN card to the last computer on the serial network, and let that machine act as a gateway to deliver the log to an extra machine running Windows 95 with NETTSR. This machine would sit off to the side taking the log with the others via LAN card, and we would then see how much it missed after the contest ends.

Dave plans to distribute the NETTSR as freeware, but he reserves all rights to the program. He has given permission for me to distribute it to PVRCers who are interested in the beta version, if they will report any problems back to him.

---------------------------- end PVRC June --------------------------